

I CLAIM:

1. A pen, comprising:
 - a housing;
 - a first reservoir inside said housing and configured to contain a first fluid, said first reservoir comprising a first opening configured to dispense said first fluid;
 - a second reservoir inside said housing and configured to contain a second fluid, said second reservoir comprising a second opening configured to dispense said second fluid;
 - a first writing tip extending from said housing and configured to dispense a substantially homogeneously mixed fluid to a writing surface; and
 - a mixing region connected to said first and second openings and said first writing tip and configured to substantially homogeneously mix said first and second fluids and dispense said substantially homogeneously mixed fluid to said first writing tip.
2. The pen as in claim 1, further comprising a second writing tip extendable from said housing and configured to receive only said first fluid and to dispense said first fluid unmixed with said second fluid to said writing surface.
3. The pen as in claim 1, wherein said mixing region has a length substantially parallel to and a width substantially perpendicular to an average flow direction of said first and second fluids through said mixing region, and
 - wherein said length is at least twice said width.
4. The pen as in claim 1, further comprising said first and second fluids, wherein said first fluid comprises a first chemical and said second fluid comprises a second chemical that is chemically reactive with said first chemical.
5. The pen as in claim 4, wherein said first and second chemicals solidify into a solid product upon chemically reacting.

6. The pen as in claim 5, wherein said first fluid further comprises a first dye.
7. The pen as in claim 6, wherein said second fluid further comprises a second dye, and wherein a color of said substantially homogeneously mixed fluid is indicative of a concentration of said first fluid in said substantially homogeneously mixed fluid.
8. The pen as in claim 5, wherein the chemical reaction between said first and second chemicals has a known time dependence, and
wherein an extent of chemical reaction between said first and second chemicals is indicative of a time of mixing of said first and second fluids.
9. The pen as in claim 5, wherein said first and second chemicals solidify into a solid product at a rate such that a viscosity of said substantially homogeneously mixed fluid at 25 degrees Celsius is greater than 10,000 centipoise at any time after seven days after a time of mixing of said first and second fluids, wherein said viscosity is less than 10,000 centipoise at any time before one day after the time of mixing of said first and second fluids.
10. The pen as in claim 5, wherein said first fluid comprises a third chemical chemically reactive with a paper writing surface,
wherein an extent of chemical reaction between said third chemical and said paper writing surface is indicative of a time of mixing of said first and second fluids.
11. The pen as in claim 5, wherein said substantially homogeneously mixed fluid comprises a heat-activated indicator.
12. The pen as in claim 5, wherein said first fluid further comprises a third chemical and said second fluid comprises a fourth chemical chemically reactive with said third chemical,
wherein the chemical reaction between said third and fourth chemicals has a known time dependence, and

wherein an extent of chemical reaction between said third and fourth chemicals is indicative of a time of mixing of said first and second fluids.

13. The pen as in claim 5, wherein said first fluid further comprises a first chemical identifier, said first chemical identifier comprising at least a first rare-earth element, and
wherein a relative concentration of said first rare-earth element in said fluid ink is indicative of a manufacturer of said fluid ink.

14. The pen as in claim 1, wherein said mixing region and first writing tip are configured to be removable from said pen and readily replaceable.

15. An ink pen for dispensing ink having time-dependent characteristics, comprising:
a writing pen, comprising at least one reservoir configured to contain a fluid, and further comprising a writing tip configured to dispense said fluid to a writing surface; and
a fluid ink having time-dependent characteristics contained in said at least one reservoir, said ink comprising:

- a first chemical;
- a second chemical; and
- a dye,

wherein said first and second chemicals are chemically reactive and solidify into a solid product upon chemically reacting,

wherein said writing pen and fluid ink are configured so that: at least said first and second chemicals are substantially chemically isolated from each other prior to dispensing said ink to said writing surface; and at least said first and second chemicals are substantially mixed with each other upon dispensing said fluid ink to said writing surface so as to chemically react with each other.

16. The ink pen as in claim 15, wherein said fluid ink is contained in exactly one reservoir, and
wherein at least one of said first and second chemicals is encapsulated in microcapsules.

17. The ink pen as in claim 15, wherein the chemical reaction between said first and second chemicals has a known time dependence, and

wherein an extent of chemical reaction between said first and second chemicals is indicative of a time of dispensing of said fluid ink to said writing surface.

18. The ink pen as in claim 15, wherein said fluid ink further comprises a heat-activated indicator.

19. The ink pen as in claim 15, wherein said fluid ink further comprises at least a third chemical chemically reactive with said dye such that chemical reaction results in change of color,

wherein said writing pen and fluid ink are configured so that: at least said dye and said third chemical are substantially chemically isolated from each other prior to dispensing said ink to said writing surface; and at least said dye and said first chemical are substantially mixed with each other upon dispensing said fluid ink to said writing surface so as to chemically react with each other,

wherein a color of said fluid ink is indicative of an extent of chemical reaction by said dye, and

wherein an extent of chemical reaction by said dye is indicative of a time of dispensing of said fluid ink to said writing surface.

20. The ink pen as in claim 15, wherein said fluid ink further comprises third and fourth chemicals chemically reactive with each other,

wherein said writing pen and fluid ink are configured so that: at least said third and fourth chemicals are substantially chemically isolated from each other prior to dispensing said ink to said writing surface; and at least said third and fourth chemicals are substantially mixed with each other upon dispensing said fluid ink to said writing surface so as to chemically react with each other, and

wherein an extent of chemical reaction between said third and fourth chemicals is indicative of a time of dispensing of said fluid ink to said writing surface.